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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,012

08/29/2006

William E. Eckles

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EXAMINER

WONG, EDNA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

06/08/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,012	Applicant(s) ECKLES ET AL.	
	Examiner EDNA WONG	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-14 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,6,8-14 and 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This is in response to the Amendment dated May 26, 2010. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Election/Restrictions

This application contains claims **3-4, 6, 8-14 and 16-19** drawn to an invention nonelected without traverse in the reply filed on March 29, 2010.

Claim Rejections - 35 USC § 103

Claims **1-2 and 7** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **WO 00/14305** ('305) in view of **Sonntag et al.** (US Patent No. 6,652,728 B1) and **Fenyés et al.** (US Patent No. 4,506,081).

The rejection of claims 1-2 and 7 under 35 U.S.C. 103(a) as being unpatentable over WO 00/14305 ('305) in view of Sonntag et al. and Fenyés et al. has been withdrawn in view of Applicants' amendment.

Allowable Subject Matter

The indicated allowability of claim 5 is withdrawn in view of the new grounds of rejection.

Response to Amendment

Claim Rejections - 35 USC § 103

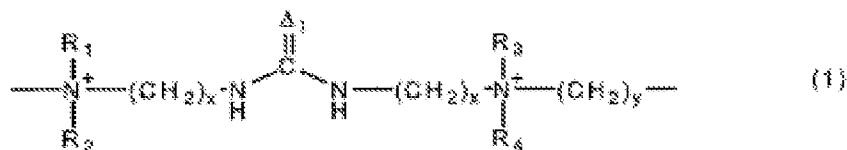
Claims **1-2 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **WO 00/14305** ('305) in view of **Sonntag et al.** (US Patent No. 6,652,728 B1) and **Fenyés et al.** (US Patent No. 4,506,081).

Sonntag et al. is the English equivalent of WO 00/14305.

Sonntag teaches a zinc or zinc alloy electroplating bath comprising:

(i) zinc ions (= a source of zinc ions and optionally a source of further metal ions)
[col. 2, lines 63-64] and

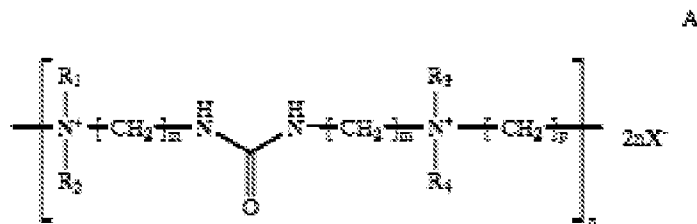
(ii) a brightening agent, the brightening agent comprising at least one polyamine or a mixture of polyamines, the at least one polyamine or mixture of polyamines including a first repeating unit that has the general formula:



where Δ_1 is O, N, or S; Δ_2 is O, N, or S, and $\Delta_1 \neq \Delta_2$; x is an integer from 2 to 6; y is an integer from 1 to 6; z is an integer from 1 to 6; R_1 , R_2 , R_3 , and R_4 , which is the same or different, is methyl, ethyl, isopropyl, n-propyl, hydroxyethyl, or $-\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_m\text{OH}$; m is a number between 0-6; R_5 represents a group of atoms necessary to complete a heterocyclic compound having a five or six membered ring containing at least two nitrogen atoms; and R_6 is nothing or an alkyl group (= a polymer

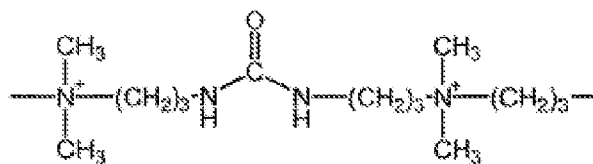
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soluble in the bath and having the general formula A:



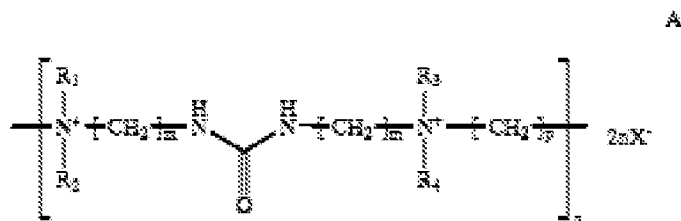
wherein m has a value 2 or 3, n has a value of at least 2, R_1 , R_2 , R_3 and R_4 , which may be the same or different, each independently denote methyl, ethyl or hydroxyethyl, p has a value in the range from 3 to 12, and X^- denotes Cl^- , Br^- and/or I^-) [col. 2, line 66 to col. 3, line 15].

The first repeating unit having the following formula:



(= a polymer soluble in the

bath and having the general formula A:

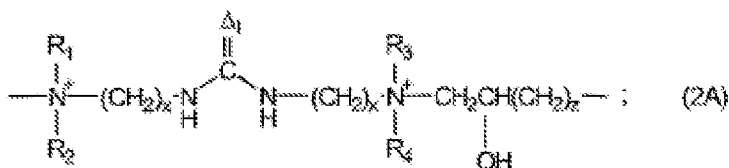


wherein m has a value 2 or 3, n has a value of at least 2, R_1 , R_2 , R_3 and R_4 , which may be the same or different, each independently denote methyl, ethyl or hydroxyethyl, p has a value in the range from 3 to 12, and X^- denotes Cl^- , Br^- and/or I^-) [col. 2, line 66 to

col. 3, line 15].

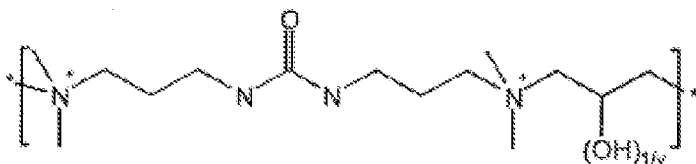
The bath of Sonntag differs from the instant invention because Sonntag does not disclose the following:

a. Wherein the at least one polyamine or mixture of polyamines include a second repeating unit selected from the group consisting of:



where Δ_1 is O, N, or S; Δ_2 is O, N, or S, and $\Delta_1 \neq \Delta_2$; x is an integer from 2 to 6; y is an integer from 1 to 6; z is an integer from 1 to 6; R_1 , R_2 , R_3 , and R_4 , which is the same or different, is methyl, ethyl, isopropyl, n-propyl, hydroxyethyl, or $-\text{CH}_2\text{CH}_2(\text{OCH}_2\text{CH}_2)_m\text{OH}$; m is a number between 0-6; R_5 represents a group of atoms necessary to complete a heterocyclic compound having a five or six membered ring containing at least two nitrogen atoms; and R_6 is nothing or an alkyl group, wherein the first repeating unit and the second repeating unit are in the same polymer chain, as recited in claim 1.

b. Wherein the polyamine has the following general formula:

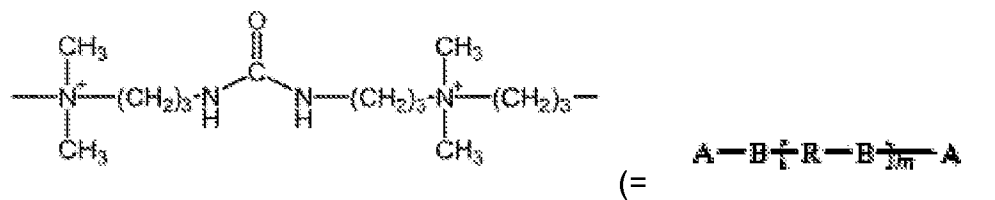


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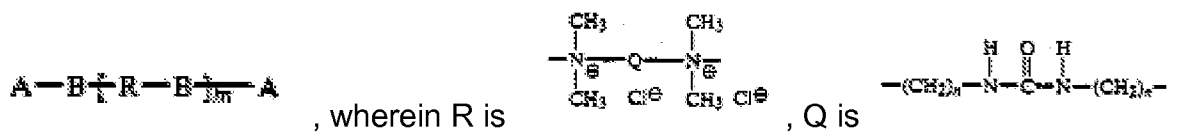
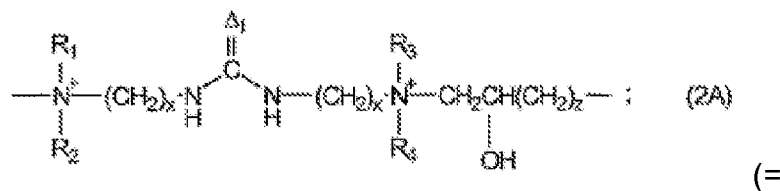
where v is an integer greater than 1, as recited in claim 7.

Sonntag teaches that the bath contains conventional additives (col. 3, line 17).

Like Sonntag, **Fenyés** teaches a polyamine including a first repeating unit that has the general formula:



wherein R is $\begin{array}{c} \text{CH}_3 \\ | \\ \text{---} \text{N}^+ \text{---} \text{Q} \text{---} \text{N}^+ \text{---} \\ | \quad | \\ \text{CH}_3 \quad \text{Cl}^- \end{array}$ and Q is $\text{---} (\text{CH}_2)_n \text{---} \text{NH} \text{---} \text{C}(=\text{O}) \text{---} \text{NH} \text{---} (\text{CH}_2)_n \text{---}$) and a second repeating unit selected from the group consisting of:



A is $\begin{array}{c} \text{CH}_3 \\ | \\ \text{---} \text{N}^+ \text{---} \text{Q} \text{---} \text{N}^+ \text{---} \\ | \quad | \\ \text{CH}_3 \quad \text{Cl}^- \end{array}$, B is $\text{---} (\text{CH}_2)_m \text{---} \text{N}^+ \text{---} \text{CH}_2 \text{---} \text{CH}(\text{OH}) \text{---} \text{CH}_2 \text{---} \text{N}^+ \text{---} \text{R}''' \text{---}$, R''' is a lower alkyl group, m is 0 or a number from 1 to 100, and n is 2 or 3 (col. 1, lines 5-59).

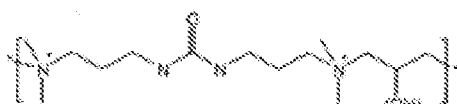
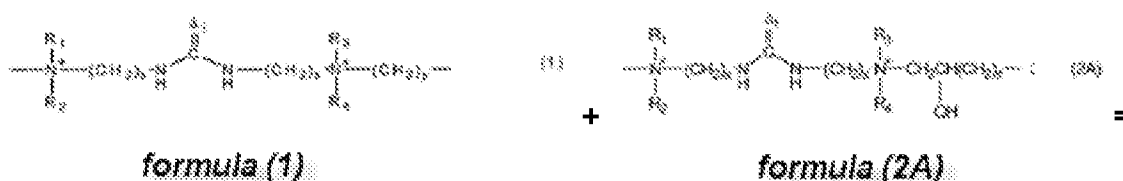
This invention relates to novel polyquaternary ammonium compositions including diquaternary ammonium compounds and to their uses as microbicides, corrosion inhibitors, debonding agents, flocculants, softeners, anti-static agents and demulsifiers (col. 1, lines 5-9).

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The corrosion of metals in water is an electrochemical process that occurs because of difference in electrical potential between points on the metal surface or between two metal surfaces. This difference in potential between points on the metal surface can be due to several factors such as: differences in composition, differences in crystal size, crystal orientation, discontinuous oxide film due to air or heat treatment, stress, superficial foreign matter, inclusions of dissimilar material and alloys, differences in the concentration of dissolved oxygen as compared with another, and the contact of dissimilar metals. For control of corrosion in aqueous systems concentrations of 0.5 to 500 ppm based on the weight of water treated are suitable with a preferred concentration range of 0.5 to 50 ppm. The products of this invention may be used alone or in combination with other known corrosion inhibitors (col. 4, lines 36-52).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the bath described by Sonntag with (a) and (b) above because such a compound would have controlled the corrosion of metals in water in an electrochemical process as taught by Fenyés (col. 1, lines 5-59; and col. 4, lines 36-52).

Furthermore, if the presently claimed polyamine is:



the polyamine

, then there is no reason why the polyamine

disclosed by Fenyés is not a polyamine having the first repeating unit and the second repeating unit in the same polymer chain as presently claimed because Fenyés teaches a polyamine having the same general formulae as presently claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDNA WONG whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edna Wong/
Primary Examiner
Art Unit 1795

EW
June 6, 2010